# Editorial

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***'Welcome to Columbus College. Is this all your gear?'***
***'It's all I was allowed without paying excess.'***
Victoria arrives at the University of Space, Jupiter Moon

***'You're right, Johnny. You know, there are a lot of other kids who feel just the same way you do. They're confused and afraid, but they don't have to be. The problem isn't that other kids don't like you, it's that they don't understand you, but we do. You're special. You're a latent telepath about to come into full bloom.'***
***'My Johnny, a telepath?'***
***'Probably, but to be sure, take him down to the Psi-Corps Testing Centre first thing tomorrow.'***
***'How do I find them?'***
***'We're everywhere, for your convenience.'***
Psi Corps Advertisement, *Babylon 5*

Victoria was joining the *Ilea* - a science station in geostationary orbit above a human colony on Callisto, the outermost of the Galilean moons of Jupiter. *Jupiter Moon*, which aired in the 1990s, followed the lives of the crew of the space station and the students and staff of the Columbus College of the University of Space. As a drama serial, it combined elaborate science with the mundanity of baggage allowances and spaced-up new-romantic fashion. At around the same time, the visually and conceptually much more sophisticated *Babylon 5* took us further into the future in a five-mile-long Babylon 5 space station, a centre for trade and diplomacy between colonies in the Earth Alliance and beyond, with the Psi Corps responsible for the wellbeing and also the control of telepathic individuals by whom those without extraordinary psychic powers are identified as 'mundanes'.

The same term was used recently in a study, publicized in *Times Higher Education*, of the benefits of technology identified by students, citing one of the co-authors of the study as saying that there was 'considerable evidence' that technology was aiding learning but that it was not always 'the cutting edge or headline use of technologies but often the more prosaic or mundane' uses associated with the organization and management of study time and place (Parr 2015). The findings echo those of Francis (2010), whose ethnographic study also finds that students' technology use focuses on forming and maintaining context – physical as well as online. But Francis's conclusions are far-reaching. He describes the university as 'decentred' by this shift towards learner appropriation of technology toolsets and collaborative networks to the shape and use of which they, and not we, are central. Nothing mundane about that, either for pedagogy or for institutional strategy. How did we not notice it happening?

At the start of this century, universities were prompted from all quarters to transform their delivery patterns in order to compete against new forms of competition enabled by technology to provide the greater learner convenience and access to remote expertise that would become the drivers of demand for higher education. The expanded reach that new technology allowed would satisfy future demand for lifelong learning, both as a requirement of a fast-changing globalised knowledge society and an enabler of social justice within it. Non-traditional

providers of higher education would start or run existing universities themselves, because they could, because the technology to do so was there, and that was the only requirement other than the greater business sense that would see them thrive at the expense of traditional institutions unable to transform their business models at speed.

The threat to those traditional institutions from the disaggregation of its composite roles and their alignment with separate external competitive forces was recognised (Pittinsky 2003). But universities were warned that they would struggle if they did not at one and the same time transform their own business models and also collaborate with potential competitors to engage with the inevitability of transformative technological change. Those who did not do so would be stripped by waning relevance of all but their role in credentialing learning supported by other institutions more agile in adaptation and less restricted in their thinking about the nature of learning and the ownership of knowledge. National and bilateral collaborations – projects such as The University for Industry[1], The Interactive University (based at Heriot Watt)[2], and the *Ivimeds* medical school project[3] – were set up to exploit new opportunities and resist the market incursions of an expected influx of retailers and publishers challenging for position directly through demand for their services. It didn't, of course, quite work out that way. *The Ufi* became *learndirect* and its mixed fortunes continue in, Heriot Watt University adopted an overseas campus strategy, and *Ivimeds* became a shared resource bank rather than a global online medical school. So what happened? Was it all ungrounded future-gazing in the first place?

At that same time, there was a flurry of publication around the subject of e-learning, its outputs still lying on library shelves today, rarely if ever consulted and never replaced by any later surge of similar dimensions, already reflecting a stage in technological development now as anachronistic as an Amstrad on the *Ilea*. Much of this literature emanated from the UK's Open University (OU), and reflected the system priorities of a global distance learning institution constructed as advice for institutions necessarily considering a step-change in the same direction. Cornford and Pollock (2003) described the introduction of online assessment feedback at the OU as 'a fairly mundane use of the new technology' although they go on to explain how that change led to improved standardization of feedback and shared articulation of grading principles by improving the mobility of information among staff and students. They could not at that time have understood fully the magnitude, or importance to retention and reputation, of the overall sector shift in expectations around online management of assessment and feedback. Working within the same institutional framework, Laurillard (2001) identified the role of technology in facilitating on a large-scale basis a dialogic model in which conversations between learner and tutor were enabled by technology to exceed the potential of a transmission model in which teacher conceptions, received, unchecked and not acknowledged as constructed by the learner, constituted learning.

A number of promising pedagogic leads emerged. Capturing the growing interest in emerging understandings of the learning process as a socially constructed or at least situated process, computer-supported cooperative learning (McConnell 2000) extended to a more expansive enquiry mode enabled by expanded resource access and improved connectivity that would allow learners to experiment beyond prescribed learning zones and structures (Weigel 2002). Drawing on models of peer learning, social constructionism, and communities of practice, authors such as Salmon (2000) offered guidance on maintaining learner engagement, communication and cooperation in safe and productive online environments in which they

[1] http://www.ippr.org/publications/university-for-industry-creating-a-national-learning-network
[2] http://www.virtualschoolsandcolleges.eu/index.php/Interactive_University
[3] http://iamse.org/development/2013/was_2013_spring.htm

could work 'together developing original thought and realising the preferred learning outcome: the construction of their own knowledge and meaning' (Palloff and Pratt 2001, 114). At the same time, work on immersive environments was championed as offering a more profound experience that would enable committed participation and deep learning (Prensky 2001). As a direction of development, games-based learning has been limited by the cost of competition with the production values (even then) of the commercial gaming industry (Faber 1998), and by its implication in broader arguments around computer games, and whether their growth and popularity reflects enduring drives towards sociability and rivalry, learning and escape, that are ancient and durable (Chatfield 2010), reciprocity on transformed scales and patterns (Mitchell 2003) or a medium of striking and potentially dangerous persuasive power (Bogost 2010), allowing a personally and societally dangerous escape from more enduring social formation (Turkle 1996). In part, these arguments mirror those around the impact of connectivity and online access more generally (Taylor and Saarinen 1994; Thompson 1995; Howard and Jones 2004). While some point to democratisation and increased individual wellbeing through social engagement at a range of ecological levels (Nardi and O'Day 1999), others have argued that the volume of, and extended access to, information leads to trivialisation (Postman 1993) and to an amateurism (Keen 2007) that puts the information cart before the horse of informed judgement. The information literacy field of this same period abounds with warnings and guidance (e.g. Brouwer 1996) to academics and information specialists seeking to retain traditional categories of 'reliability' in the context of enormous growth in online information volume, and an already-evident student preference for working outside institutional systems (Armstrong et al. 2001).

Our dangerous disregard for the 'mundane' reflects the continuing distinction drawn between the prosaic and the pedagogic on the basis of a long-standing academic preference for technology developments that are securely institutional in design and use, working within pre-existing pedagogic frameworks while promising transformative potential. Within the e-learning studies and guides published in the early 2000s, the institutional impact of technological change is the predominant focus. If teachers did not themselves seek to harness the potential of technology in their pedagogy and reflect comprehensively and deeply on its potential impact, they would find themselves side-lined by forces of competition, efficiency and improvement (Scrimshaw 2001). There was much encouragement of systemic and strategic approaches to the selection, adoption and implementation of technology-enabled systems, and practical advice on avoiding the pitfalls of reliance on the pioneering spirit of the few, or the simple encouragement of the many (Collis and Moonen 2001). There were collections of case studies (Lockwood and Gooley 2001) that identified institution-wide initiatives, often early attempts to create campus learning environments and specify their minimum use; others describing individual innovations, with all of the obstacles and constraints that attempts their scale up and transfer encountered. The emergence in the mid-2000s of Web 2.0 (Hall and Conboy 2009) and the apparent potential of learning objects (Littlejohn 2003) offered (briefly in the latter case) more, and better, of the same interplay of connectivity and information resource within carefully bounded pedagogic zones to which all more expansive exploration would eventually return.

It would, of course, be most unfair to be wholly critical of the progress that has been made across the sector in providing students with a technology-supported learning environment. But the recent description of learning with technology as a 'mediated activity that potentially leads to transformation in the education system' (Hardman and Amory 2015) could have come from almost any of the e-learning texts of the early 2000s. There are still the evangelists who promote the large-scale deployment of technology as a means of matching the processes and pace of education to the range of learning styles through the translation of face-to-face quality

online (Khan 2012). Guides to practice (Fisher et al. 2014) still offer a range of innovations that would be recognisable in their fundamentals by the authors and readers of earlier such guides, based on varying disciplinary demands and priorities, to engage students in resource-based activity within a learning experience supported by online connectivity. We are, it seems, still waiting for that transformative potential of technology to be realised in the core of our missions and business models – in teaching and learning.

Expected to impact directly through organization competition enabled by the removal of barriers to entry, the challenge of technology was viewed through a lens of assumptions and pre-judgements that limited, and continues to limit, our understanding of its real and long-term impact. Progress has been stunted by a general refusal to confront fully the implications of technological change for the classroom experience. Our caution informed by the warnings of the very literature that promised transformation: that resource-based learning needs to be designed on the basis of firm pedagogical principles if it is to achieve its potential (Ryan et al. 2000), and that e-learning will promote equality across the student population provided that the advantages of technology are informed by well-founded educational practice (Warschauer 1999). Templates for such design were offered (Merrienboer et al. 2004, McConnell 2006) along with the advice that 'the benefits of change must be carefully explained to the students (Daniel 1999, 163).

Our capacity for radical change was, and still is, limited by an assumption that the learner's experience starts and ends with us, and is constrainable within our plan, our design. It is just possible that if the threat that loomed large at the start of this century - that universities did not harness the disruptive power of technology and used it only to sustain existing pedagogies they would face competition from both within and beyond the HE sector - hasn't materialised (Weller 2002) it may be only because both we and they have failed to grasp and action the main driver of change – the learner. While Prensky's (2001) promotion of digital games as the medium for future learning now seems over-ambitious, it also now seems limited in terms of the implications of his own understanding that the relationship between information search and transmission and social action was changing profoundly towards a 'connected mode' (58). Students come to our campuses from social worlds in which life online and offline are integrated to a degree that makes the distinction itself irrelevant – if they leave them behind at all. Their online lives are 'friendship-driven' and 'interest-driven' (Ito et al. 2009). They appropriate and create the tools and the social networks that work for them. They are digital natives not because they understand fully how the technology infrastructure of their lives works; they're digital natives because they have an unforgiving expectation that it will do so and that it will enable them to create the environments in which they act and interact, designing their lives and their identities in doing so, with increasing fluidity and ease. The disjunction between the lives our learners live and the choreographed regression of their learning experience is the transformation that has occurred over the last 15 years. And it has all occurred in the domain of the 'mundane'.

While we were colonising technological change to secure and manage it within existing structures (Christensen et al. 2010), limiting our own understanding if its long-term impact by so doing, our learners, at the more innovative margins of our teaching and learning model, are driving the need for transformation. While we are enacting the educational equivalent of Norman's hoped-for person-centred technology in which we design 'appropriate' technologies that are based on identified need and do not detract from what we already hold dear (Norman 1993), our students have moved into a very differently constructed universe with vastly different patterns of living, learning and liking created by a motivated learner acting within a responsive system, mediating the impact of a broadly unknowable future technological

direction (Joinson 2003) that are already making traditional pedagogic paradigms unattractive and less accessible to them. Certainly, in and of itself, 'an information network that provides unlimited access and resources to learn about anything cannot but shape how teaching and learning occur in the academy' (Tierney 2014, 41). But it would be macro-myopic in the extreme not to recognise the huge shift in learner agency and expectation that is occurring as a composite of all the individual and apparently 'mundane' choices our students are making, and to restrict the changes we are prepared to make to small-scale and incremental enhancements of a traditional teaching and learning paradigm that is already distant from the lives and the learning of our students.

***'It was then found that liquid hydrogen could be made on Callisto and shipped to low earth orbit for the manufacturing plants'***

***'The orbital velocity of Callisto being what? Anybody? Anna?'***

A space class in Jupiter Moon

***'We learn. That's what humans do.'***

*Babylon 5*

## References

Armstrong, C., Fenton, R., Lonsdale, R., Stoker, D., Thomas, R. And & Urquhart, C. (2001). A study of the use of electonic information systems by higher education students in the UK. *Program,* **35**(3), pp. 241--62.

Bogost, I. (2010). *Persuasive games: The expressive power of videogames.* Cambridge, Mass, USA: MIT Press.

Brouwer, P. (1996). Hold on a minute here: What happened to critical thinking in the information age? *Journal of educational technology systems,* **25**(2), pp. 189--97.

Chatfield, T. (2011). *Fun Inc. Why games are the 21st century's most serious business.* 2nd edn. London, UK: Virgin Books.

Christensen, C., Horn, M. And Johnson, C. (2010). *Disrupting class: How disruptive innovation will change the way the world learns* . New York, USA*:* McGraw Hill.

Collis, B. And & Moonen, J. (2001). *Flexible learning in a digital world: Experiences and expectations.* London: Kogan Page.

Cornford, J. And Pollock, N., 2003. *Putting the university online: Information, technology and organisational change.* Maidenhead, UK: SRHE & Open University Press.

Daniel, J., 1999. *Mega-universities and knowledge media: Technology strategies for higher education.* 2nd edn. London: Kogan Page.

Faber, L. (1998). *Re:play: ultimate games graphics.* London: Lawrence King Publishing.

Fisher, A., Exley, K. And Ciobanu, D. (2014). *Using technology to support learning and teaching.* London: Routledge.

Francis, R. (2010). *The decentring of the traditional university: The future of (self) education in virtually figured worlds.* London: Routledge.

Hall, R. and Conboy, H. (2009). Scoping the connections between emergent technologies and pedagogies for learner empowerment. In: T. Mayes, D. Morrison, H. Mellar, P. Bullen And M. Oliver, eds, *Transforming higher education through technology-enhanced learning.* York, UK: The Higher Education Academy, pp. 220--234.

Hardman, J & Amory, A. (2015). Introduction to CHAT and tool mediation. In: V. Bozalek, D. Ng'ambi, D. Wood, J. Herrington, J. Hardman And A. Amory, Eds, *Activity theory, authentic learning and emerging technologies: Towards a transformative higher education pedagogy.* London: Routledge, pp. 9--21.

Howard, P. And Jones, S. eds (2004). *Society online: The internet in context.* California: Sage.

Ito, M. et al. (2009). *Hanging Out, messing round, geeking out: Living and learning with new media.* Cambridge, US: MIT Press.

Joinson, A. (2003). *Understanding the psychology of internet behaviour: Virtual worlds, real lives.* Basingstoke, UK: Palgrave Macmillan.

Keen, A. (2007). *The cult of the amateur: How today's internet is killing our culture and assaulting our economy.* London: Nicholas Brealey Publishing.

Khan, S. (2012). *The one world school house: Education reimagined.* London: Hodder & Stoughton.

Laurillard, D. (2001). *Rethinking university teaching: A framework for the effective use of educational technology.* 2nd edn. London: Routledge.

Littlejohn, A. ed. (2003). *Reusing online resources: A sustainable approach to e-learning.* . London: Kogan Page.

Lockwood, F. And Gooley, A. eds (2001). *Innovation in Open & Distance Learning: Successful development of online and web-based learning.* London: Kogan Page.

McConnell, D. (2006). *E-learning groups and communities.* Maidenhead, UK: Open University Press.

McConnell, D. (2000). *Implementing computer supported cooperative learning.* 2nd edn. London: Kogan Page.

Merrienboer, J., Bastiaens, T. And Koper, R. (2004). Instructional design for integrated e-learning. In: W. Jochems, J.V. Merrienboer And R. Koper, eds, *Integrated e-learning: Implications for pedagogy, technology and organisation.* Oxford, UK: RoutledgeFalmer, .

Mitchell, W., 2003. *Me++: The cyborg self and the networked city.* Mass, USA: The MIT Press.

Nardi, B. And O'day, V. (1999). *Information ecologies: Using technology with heart.* Mass, USA: MIT Press.

Norman, D. (1993). *Things that make us smart: Defending human sttrbutes in the age of the machine.* Mass., USA: Perseus Books.

Palloff, R. And Pratt, K. (2001). *Lessons from the cyberspace classroom: The realities of online teaching.* San Francisco: Jossey Bass.

Parr, C., 2015, 9 April. Digital aids: Students reveal 'benefits' of technology. *Times Higher Education*.

Pittinsky, M. (2003). *The wired tower: Perspectives on the impact of the internet on higher education.* New Jersey, USA: Pearson.

Postman, N. (1993). *Technopoly: THe surrender of culture to technology.* New York: Vintage Books.

Prensky, M. (2001). *Digital game-based learning.* New York, USA: McGraw Hill.

Ryan, S., Scott, B., Freeman, H. And Patel, D. (2000). *The virtual university: The internet and resource-based learning.* London: Kogan Page.

Salmon, G. (2000). *E-moderating: the key to teaching and learning online* . London: Kogan Page.

Scrimshaw, P. (2001). Computers and the teacher's role. In: C. Paechter, M. Preedy, D. Scott And J. & Soler, eds, *Knowledge, power and learning.* London: Paul CHapman Publishing, pp. 135--148.

ryanTaylor, M. & Saarinen, E. (1994). *Imagologies: Media philosophy.* London: Routledge.

Thompson, J. (1995). *The media and modernity: A social theory of the media.* Oxford: Blackwell.

Tierney, W. (2014). THe disruptive future of higher education. In: W. Tierney, Z. Corbin, T. Fullerton And G. Ragusa, eds, *Postsecondary play: The role of games and social media in higher education.* Baltimore: Johns Hopkins University Press, pp. 21--44.

Turkle, S. (1996). *Life on the screen: Identity in the age of the internet.* London: Weidenfeld and Nicolson.

Warschauer, M. (1999). *Electronic literacies: Language, Culture and Power in online education.* New jersey, USA: Lawrence Erlbaum.

Weigel, V.B. (2002). *Deep learning for a digital age: Technology's untapped potential to enrich higher education.* Jossey Bass.

Weller, M. (2002). *Delivering learning on the net. London:* Kogan Page.